DOCUMENT RESUME

ED 129 385 95 JC 760 547

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TITLE Outcome Measurements in Higher Education. Advanced Institutional Development Program (AIDP) Two-year College Consortium, Vol. 1, No. 3.
INSTITUTION Advanced Institutional Development Program Two-Year College Consortium.; McManis Associates, Inc., Washington, D.C.
SPONS AGENCY Office of Education (DHEW), Washington, D.C.
PUB DATE 76
NOTE 48p.; Papers presented at a workshop held by the Advanced Institutional Development Program Two-year College Consortium, Washington, D. C. , March 17, 1976

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS Community Colleges; *Educational Objectives; *Evaluation Methods; *Input Output Analysis; *Junior Colleges; Management Systems; *Measurement Techniques; Performance Criteria; Systems Approach; Systems Concepts
IDENTIFIERS OCM; *Outcome Measures; Planning Management Evaluation System; PME System

ABSTRACT

Pressures from both outside and inside the institution are making it imperative that community colleges improve their ability to document and articulate the outputs and impacts of their programs. This document addresses itself to this issue and to the problems associated with measurement of outcomes in postsecondary education. An approach taken by the National Center for Higher Education Management Systems (NCHEMS) in dealing with outcome measurement problems is presented. Another paper attempts to clarify the relationship between Planning, Management and Evaluation (PME) Systems and Outcome Measures (OCM) where OCM is seen as an integral component of the complete PME System. The remaining two papers describe outcome measurement projects underway at El Paso Community College (Texas) and Kalamazoo Valley Community College (Michigan). Contributors include Richard Drum, L. James Harvey, Charles J. Kinnison, Sidney S. Micek, and Enrique Soles, Jr. Appended are a list of outcome measures, a sample of NCHEMS' outcome measures procedure, and a tentative list of outcome measures developed by Kalamazoo Valley Community College. (Author/JDS)

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Outcome Measurements in Higher Education

AIDP
CONSORTIUM

OUTCOME MEASUREMENTS IN HIGHER EDUCATION

Contributing Editor

Dr. L. James Harvey

The activity which is the subject of this report was supported in whole or in part by the U.S. Office of Education, Department of Health, Education, and Welfare. However, the opinions expressed herein do not necessarily reflect the position or policy of the U.S. Office of Education, and no official endorsement by the U.S. Office of Education should be inferred.

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I. INTRODUCTION

This monograph has been developed as a part of the activities of the Advanced Institutional Development Program (AIDP) Two-year College Consortium. One of the consortium activities is to develop publications that will be helpful to consortium members and others in the higher education community.

This monograph focuses on outcome measures in higher education. The publication has grown out of a workshop on this topic held by the consortium in Washington, D.C. on March 17, 1976.

The monograph consists of an article by Dr. Sidney S. Micek on the definition, collection and use of outcome measures; an article by Dr. L. James Harvey on how outcome measures fit into a Planning, Management and Evaluation System; and two articles from colleges that are developing outcome measures systems. Dr. Enrique Solis, Jr. and Mr. Richard Drum present the conceptualization of a project at El Paso Community College and Dr. Charles J. Kinnison, of Kalamazoo Valley Community College, describes their project.

The appendices contain some additional information on outcome measures, including the measures tentatively defined by Kalamazoo Valley Community College.

L. James Harvey, Ph.D.
Contributing Editor

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III. AN APPROACH TO OUTCOME MEASURES DEFINITION, COLLECTION, AND USE

Dr. Sidney S. Micek

INTRODUCTION

The adaptability and responsiveness of community colleges to the needs of individuals and society have long been the concern of community college planners and decision-makers. Today, however, the pressures coming from outside the institution -- from legislators, taxpayers, employers, parents, new applicants and others -- *as well as* pressures being exerted from within -- from students, faculty and administrators -- suggest that now, more than ever before, community colleges need to reexamine the results and benefits of their programs from the perspective of the complex and dynamic issues confronting postsecondary education and to plan accordingly.

While community college planners and decision makers are well aware of the issues confronting their institutions, they are beginning to recognize that sound directions cannot be evolved by concentrating solely on historical cost data. Likewise, they are aware that the detailed analysis of demographic data and institutional resources does not provide a final answer for making decisions and laying plans that will help the institution effectively adapt and respond to the needs of students, employers, and other constituents at the local and state levels. As a result, decision-makers are recognizing that for planning, management and evaluation to be effective, these processes must be oriented to making the outcomes of community college programs relevant to the present and future needs of individuals and society. In short, there has emerged an understanding of the necessity for an "outcome-oriented" approach to planning, management and evaluation that is based on information about the results and impacts of an institution's programs rather than on information based exclusively on *what goes into* such programs and *how* those programs are operated.

While most individuals concerned with the community college and postsecondary education in general, recognize the need and urgency for utilizing outcome information for purposes of program planning, management and evaluation, as well as to support and justify long-range plans and budgets, they are quick to point out the complexity of the problems associated with identifying and measuring the outcomes of postsecondary education and incorporating this information in the planning and budgeting processes.

One major difficulty is that, traditionally, few explicit measures of program effectiveness have been collected. Also, little has been done to show the links between resources and activities used and the attainment of desired outcomes, even when these outcomes can be quantified. In short, it has been much easier to see whether a plan has been accomplished in terms of activity or resource measures (e.g., expenditures, student/faculty ratios, enrollment levels) than in terms of educational outcomes.

A second problem often cited is that even when information about outcomes is available, it is difficult to use since the techniques for analyzing and interpreting these data are limited or are not well understood. For example, given all of the variables that potentially affect a particular outcome, it is extremely difficult to determine cause-and-effect relationships. A further complexity results because many programs have joint outcomes. For example, a vocational-technical program may contribute to student knowledge and skill development in addition to producing various services to members of the business community.

A third major difficulty is that most planners and decision-makers simply have a hard time translating their institutional and program goals into specific objectives stated in measurable outcome terms. Traditionally, goal-setting is one of the first steps in the planning process; however, once the goals are stated, too often they remain in general, non-operational terms. Because the goals lack translation into specific, measurable descriptions, planners and managers have trouble utilizing them in selecting the optimal, or even promising, courses of action and in evaluating the implemented programs.

Finally, the use of outcome data is often thwarted by the fear of potential misuses. One aspect of this fear is that the data will not portray an accurate picture of the actual benefits derived from the institution and its programs. A second, and perhaps more basic, concern is uncertainty about the ultimate findings and the actions that will be taken by persons in positions of control outside the institution. This latter concern is based on the fear that the evaluation process will not adequately take into account those outcomes and benefits that are non-quantifiable and those inputs and goals that are unique to a given institution or program.

The complexity of identifying, measuring, and evaluating the outcomes of community colleges and their programs is obvious and overwhelming; yet, it is becoming increasingly clear that we must learn to deal with these problems, given scarce resources, new demands from various consumers, and pressures for accountability. The question that exists is: "How do we begin to deal with these problems?"

The overall purpose of this monograph is devoted to this question. The remainder of this paper is intended to share with you the approach that has been taken at the National Center for Higher Education Management Systems in trying to develop some useful tools and procedures that might help decision-makers ***identify***, ***obtain***, and ***use*** the outcome information they need for their planning, management and evaluation concerns.

NCHEMS APPROACH

Although NCHEMS always recognized that both outcome information and cost information are necessary for effective planning and management in postsecondary education, NCHEMS did not immediately attack both problems on the same scale. The Center's initial efforts focused primarily on the development of procedures for measuring,

analyzing, and communicating institutional and program costs. This strategy was not only a result of the size of the problem and the inherent resource limitations but also a response to the needs and preferences of NCHEMS's constituents.

However, as pressures for accountability increased and the postsecondary education community began feeling the financial pressures of rising costs and limited resources, NCHEMS recognized that it no longer could focus primarily on the development of cost information — the problem of developing outcome information had to be addressed also. As a result, the Outcomes of Postsecondary Education Project was established to develop tools and procedures for describing and analyzing educational outcomes and to assist decision-makers in understanding and using outcome information in their planning and management decisions.

At the beginning of the Outcomes Project, the major objective was to become more familiar with the outcomes measurement and analysis problem in higher education and to determine how NCHEMS could aid its constitutents in dealing with the problem Pursuing this objective, the staff began studying what had been done in this area and examining the questions decision-makers were asking relative to postsecondary education outcomes. Many discussions were held with pratitioners, researchers, and others interested in the outcomes information problem. A national seminar was held in Washington, D.C. in 1970 for the purpose of highlighting the problems of identifying, measuring, and analyzing the outcomes of postsecondary education. A number of authorities in the field were brought together to present position papers on the subject and the results of the seminar were compiled and published (Lawrence, et al., 1970). Another major activity during this early stage was the establishment of a Design Committee for the purpose of conceptualizing and stimulating thinking about what research, development, and implementation efforts should be undertaken.

As the project progressed, this early objective gave rise to an overall conception of the outcomes area that could serve as an operational basis for future work. The long-term Outcomes of Postsecondary Education Project currently underway at NCHEMS rests on the premise that, in order to collect and use information about the outcomes of postsecondary education, three related needs must be filled:

1. The need to provide a comprehensive picture of the outcomes of postsecondary education and to develop the capability to measure these outcomes;

2. The need to provide a structure for organizing outcomes information as a prerequisite for the anlysis and communication of this information; and

3. The need to develop analytic procedures to apply this information to the solution of particular planning and management problems.

Major components of the Outcomes Project are directed toward each of these needs.

With regard to ***measures*** of educational outcomes, NCHEMS is working to (1) identify indicators of postsecondary education outcomes, (2) define each of these indicators in a standard fashion, (3) develop procedures for acquiring data relative to each of these indicators, and (4) disseminate the information and products to decision-makers in the postsecondary education community.

Two major factors are being considered in the development of the full range of postsecondary education outcome indicators. First, they must reflect a recognition that information needs vary considerably across different decision-makers. Second, the measures must acknowledge that educational outcomes occur over an extended period of time.

In responding to the need for an ***organizing structure***, NCHEMS is: (1) developing a general categorization scheme for classifying and organizing outcome measures, (2) identifying the distinctly different types of educational outcomes, (3) categorizing the measures in accordance with these distinctions, and (4) providing procedures whereby measures can be arrayed within these major categories in a logical and useful fashion. The structure should not only accommodate the full range of outcomes, but also make allowances for the various outcome dimensions, such as long-term versus short-term and the multiple levels of detail (from individual to society), that must be accommodated.

In addition to organizing measures for ease of communication, this structure should provide a focal point for conceptual and theoretical discussions surrounding the question, "Just what ***are*** the outcomes of postsecondary education?" The development of a comprehensive outcomes structure requires the resolution of the very difficult question of what should be considered an outcome of postsecondary education and what should not. The structure will serve also to identify categories of outcomes for which measures or indicators are not yet identified. Used in this way, a formal structure can not only provide a mechanism to assist in the coordination of research and development efforts, but also serve as a device to highlight those outcomes for which quantitative measures are not available, thus reinforcing the need to deal with such outcomes qualitatively.

Inasmuch as the ultimate objective is improved planning, management, and evaluation, NCHEMS is placing particular emphasis on the identification and development of relevant ***analytic capabilities*** that will foster the interpretation and use of outcome data. In particular, attention is being focused on developing capabilities for investigating relationships among input or process variables and resulting outcomes. It is anticipated that users will benefit not only from the actual findings of these analyses in case study form, but also from the dissemination of prototype analytic procedures and techniques applicable in undertaking analyses of particular kinds of problems.

In carrying out these tasks, NCHEMS is relying heavily on a strategy of producing products early in the development cycle and then concentrating on making improvements wherever possible. In keeping with the technique, a preliminary set of outcome measures, a preliminary outcomes classification structure, and an initial set of outcomes data collection and analytic procedures and guidelines have been developed and are being field tested.

Subsequent efforts will be directed toward successive stages of expansion and refinement of the products in each of the three areas.

The development approach is also characterized by the active involvement of the potential users of the project results at each major stage. NCHEMS has consistently favored a style of operation that solicits input from product users during the development process. Historically, this involvement has been obtained through task forces, advisory groups, field reviews and pilot tests. In the Outcomes Project, these involvement mechanisms are being augmented by surveys and other devices that allow the staff to acquire user input in a more systematic and specific way.

A POSTSECONDARY EDUCATION OUTCOMES CLASSIFICATION STRUCTURE

One of the strategies being employed in the attempt to accomplish the objectives outlined above is the development of a classification structure that can serve not only as an organizing framework for the comprehensive set of postsecondary education outcomes, but also as an operational focal point for consideration of the question, "Just what *are* the outcomes of postsecondary education?" An initial version of this structure already has been developed in the form of an *Inventory of Higher Education Outcome Variables and Measures* (Micek and Wallhaus, 1973). The inventory is based on the premise that although improving the ability to acquire information about outcomes is critical, the mere availability of this information is not the ultimate objective. The objective is the delineation of decision-relevant data and the improvement that can result from the use of these data. A primary use of such data is in the evaluation of the effectiveness and efficiency of the alternatives available to the decision-maker. Such use invariably involves comparisons of both costs and benefits, that is, comparisons among programs or institutions, or between the same program or institution at different points in time.

To make such comparisons, one must communicate outcome information among different institutions, different programs, and different kinds of decision-makers. The requirement for a communication capability, in turn, creates a requirement for a common language permitting this communication. This need for a common language to promote the use of outcome information has several major implications. First, it means the measures of educational outcomes must be defined in some standardized way. Just as financial data must be defined and aggregated in uniform ways for cost information to be comparable and useful for communication without misinterpretation, so must data about outcomes be defined in uniform ways in order to be comparable.

Second, the need to communicate outcome information creates a requirement for some uniform scheme of organizing and categorizing the individual pieces of information. Without some framework or structuring device, communication becomes exceedingly

difficult. In the absence of a structure, data items of interest must be identified individually; there is no mechanism for referencing a series or class of items. Having a wide variety of outcome data without the attendant structure is analogous to possessing a file cabinet in which the contents are arranged randomly. The ability to retrieve and communicate the contents of the file improves as the organization of the material within it becomes more precise. Just as the NCHEMS *Program Classification Structure* (Gulko, 1972) was a necessary step to assist institutions and agencies in organizing certain types of programs and activities as a basis for improved communication among users, so an outcomes classification structure, like the Inventory, is needed to provide a similar basis for the understanding and communication of outcomes information.

Two criteria were applied in constructing the actual Inventory. One was the need to develop a list of outcome variables that would serve as many kinds and levels of decision-makers as possible. Second, the Inventory was intended to be as comprehensive as possible in that it would cover not only instructional programs, but also major noninstructional areas, such as research and public service. Application of these criteria to the outcomes information area lead to the construction of an Inventory with the general structure shown in Table 1.

Table 1

Outline of Major Categories in NCHEMS Inventory of Outcome Variables and Measures

1.0 Student Growth and Development
- 1.1.0 Knowledge and Skills Development
  - 1.1.1.00 Knowledge Development
  - 1.1.2.00 Skills Development
  - 1.1.3.00 Knowledge and Skills Attitudes, Values, and Beliefs
- 1.2.0 Social Development
  - 1.2.1.00 Social Skills
  - 1.2.2.00 Social Attitudes, Values, and Beliefs
- 1.3.0 Personal Development
  - 1.3.1.00 Student Health
  - 1.3.2.00 Personal Attitudes, Values and Beliefs
- 1.4.0 Career Development
  - 1.4.1.00 Career Preparation
  - 1.4.2.00 Career Attitudes, Values, and Beliefs

2.0 Development of New Knowledge and Art Forms

3.0 Community Development and Service
- 3.1.0 Community Development
- 3.2.0 Community Service
- 3.3.0 Longer-Term Community Effects

Within each area of the Inventory, general ***outcome variables*** have been defined, together with specific ***potential measures*** of those variables. Thus, such variables as development of general knowledge, development of specialized knowledge, and critical thinking and reasoning skills have been identified with the knowledge and skills development area. Measures that might be used to assess these variables include student scores on various standardized tests, numbers of graduates accepting employment in their major field of study as a percentage to total graduates in that field, or average student and/or former student scores measuring their degree of satisfaction with their ability to apply what they know. A complete discussion of the development of the Inventory and its possible use is given in the document, *An Introduction to the Identification and Use of Higher Education Outcome Information* (Micek and Wallhous, 1973).

One additional issue that needs to be addressed with respect to the Inventory is the question of its use. Several potential uses can be identified. First, the Inventory should greatly facilitate communication between decision makers in all sectors and levels of postsecondary education. That is, it should serve as a "common currency" for exchanging ideas and information about the results of postsecondary education. It should provide a common language that will assist all who are interested in improving postsecondary education to understand specifically what one means when reference is made to a particular outcome variable.

The second primary use of the Inventory is to facilitate the planning process in postsecondary education. Without a clear understanding of the direction one wishes to go, that is, without knowing the objectives one wishes to achieve, it is nearly impossible for the planner or manager to determine which alternative course of action will provide the best investment return or the best benefits. The Inventory should be helpful specifically as a device for translating broad goals into clearly defined and operationally specific objective statements. For example, a planner with a set of broad goals to guide him will be able to pick and choose those outcomes he wants to achieve from the full menu of outcomes. One he has developed his specific list of desirable outcomes, he then can rank them and compare the expected outcomes of the various program alternatives. This use of the Inventory's cateogires will serve also to highlight those goal areas for which quantitative measures are not available and thus reinforce the need to deal with such outcomes qualitatively. The third primary use of the Inventory will be to aid in evaluation. Often, when one wishes to compare the actual outcomes of a given program to the desired outcomes, the process is thwarted because the desired outcomes have not been spelled out clearly. It is expected that by identifying the specific outcomes from the Inventory the evaluator will know precisely what is to be achieved, and subsequently, he will be able to make an accurate comparison of the actual and intended outcomes. Such accurate information then can be fed back for decision making about the addition, deletion, or modification of future programmatic efforts.

Finally, since the eventual objective is to develop a structure encompassing the "full-range of educational outcomes," further developmental activity will serve as a focal point

for the conceptual and theoretical discussions surrounding the question, "Just what *are* the outcomes of postsecondary education?" The development of the Outcomes Structure requires the resolution of the very difficult question of what should be excluded. To the extent that answers to these and other basic questions will require further analysis, this effort will identify areas in which future work should be done.

THE OUTCOME MEASURES IDENTIFICATION STUDY

Another key component of the NCHEMS Outcomes of Postsecondary Education Project is the Outcome Measures Identification Study (OMIS) procedures. The purpose of these procedures is twofold. First, they are intended to identify those outcome measures or indicators perceived as most needed by different decision-makers. This process also should reveal differences and similarities within and among various decision-making groups with respect to outcomes information needs. Second, implementation of the OMIS procedures should identify those outcome measures that should receive top priority with respect to the identification and development of needed outcome data acquisition procedures.

NCHEMS has employed the Outcome Measures Identification Study procedures to survey both institutional and state-level decision makers. The institutional group surveyed by NCHEMS consisted of the president and top-level administrators for academic planning, student affairs, and budget and finance in a sample of community colleges, public and private four-year colleges, and public and private universities. The state-level group included state directors of higher education and community/junior college boards (or their equivalent), state legislators, legislative analysts, state budget officers, and governors.

The survey questionnaire used in the OMIS is based on the outcome measures contained in the Outcomes Inventory previously described, and is designed to: (1) identify the *outcome information areas* decision makers feel are most important (see Table 2), and (2) identify the extent to which decision makers "need to know" and "have access to" specific outcome measures. For example, in Outcome Area D, which contains a set of outcome measures related to Student Occupational Career Development, a decision maker had the opportunity of indicating his perceived need (or lack of it) for each of 13 specific measures (see Table 3).

Various descriptive analyses of the data obtained from the OMIS surveys have been conducted. The results of these anlyses are reported in *The Higher Education Outcome Measures Identification Study: A Descriptive Summary* (Micek and Arney, 1974) and in *The State-Level Outcome Measures Identification Study* (Micek and Oberbeck, forthcoming). Table 4 lists 20 outcome measures that 60 percent or more of the respondents in one or more of the groups in the two NCHEMS surveys indicated a "need to know."

Table 2

Outcome Information Areas Contained in NCHEMS Outcome Measures Identification Study

A.	Student Knowledge and Skills Development
B.	Student Educational Career Development
C.	Student Education Satisfaction
D.	Student Occupational Career Development
E.	Student Personal Development
F.	Student Social/Cultural Development
G.	Community Educational Development
H.	Community Service
I.	Community Impact
J.	Development of New Knowledge and Art

In general, the survey questionnaire and procedures used in the Outcome Measures Identification Study have worked quite well. The results of the surveys not only have helped in identifying the outcome measures that are important to college and state-level officials, but also have confirmed that different types of decision makers perceive a need for different kinds of outcome information.

In a practical sense, it should be noted that certain aspects of the OMIS can be used by institutions for identifying the outcome measures important for internal program evaluation and external reporting. For example, one institution that participated in the original pilot test of the OMIS procedures has used the responses of its administrators to identify those outcome measures for which they should begin developing a data base. Based on the list of measures identified in the results of this particular institution's survey data, work now is underway toward developing procedures for obtaining the necessary outcome data as well as the other kinds of input and process data necessary for interpreting the outcome information. This use of the procedures and results of the Outcome Measures Identification Study is encouraging since it suggests that institutions on their own can begin implementing the OMIS procedures.

Table 3

Student Occupational Career Development Outcome Measures

1. Number and percentage of former students (graduates and nongraduates) surveyed who were employed within a certain time period after leaving the institution.

2. Number and percentage of former students (graduates and nongraduates) surveyed who received the job of their first choice.

3. Average first salary of former students.

4. Distribution of former students (graduates and nongraduates) across income categories within a certain time period after leaving the institution.

5. Former students (graduates and nongraduates) scores on a scale measuring their degree of satisfaction with their job performance.

6. Number of professional occupation awards and citations received per former student surveyed.

7. Number and percentage of former students surveyed who are in management positions within a certain time period after leaving the institution.

8. Number of voluntary/involuntary changes in ***employment*** within a given time period per former student surveyed.

9. Number of voluntary/involuntary changes in ***career field*** within a given time period per former student surveyed.

10. Average first salary expectations of students.

11. Number and percentage of students who are aspiring to a particular type of occupational career.

12. Number and percentage of students and/or former students surveyed who are seeking certain levels of employment.

13. Number and percentage of former students (graduates and nongraduates) surveyed accepting employment in their major field of study.

Table 4

Outcome Measures Endorsed by 60 Percent of One or More "OMIS" Survey Groups as "Need to Know"

1. Number of students passing certification or licensing exames (e.g., bar exam, CPA, LPN) on first attempt as a percentage of all students taking the exam.
2. Student scores on tests that indicate their ability to read, write, speak, and/or listen.
3. Number and percentage of students surveyed who have participated in activities that enhance their communication skills (e.g., debate, encouter groups, etc.).
4. Number and percentage of students surveyed identifying a certain degree, diploma or certificate as the highest degree planned.
5. Number and percentage of students surveyed who are taking noncredit, independent study, or special courses.
6. Number of students receiving a degree, diploma, or certificate within a certain time period.
7. Average amount of time it takes a student to earn a degree, diploma, or certificate.
8. Number of students graduating from the institution after a certain period of time as a percentage of their entering class.
9. Number and percentage of graduates for the year who transferred from another school.
10. Number and percentage of students leaving the institution prior to receiving a degree, diploma, or certificate during a particular academic term or year.
11. Student scores on a scale measuring their degree of satisfaction with their progress in achieving their educational career goals.
12. Student scores on a scale measuring their degree of satisfaction with their progress in achieving their occupational career goals.
13. Number and percentage of former students (graduates or nongraduates) surveyed who were employed within a certain time period after leaving the institution.
14. Number and percentage of students surveyed who are aspiring to a particular type of occupational career.
15. Number and percentage of former students (graduates and nongraduates) surveyed accepting employment in their major field of study.
16. Number of nonmatriculating participants enrolled in instructional programs as a percentage of the total number of persons in those programs.
17. Number and percentage of graduates of a particular graduating class who are employed in-state versus out-of-state.
18. Community attitudes toward the institution (e.g., attitudes toward the institution's contribution to community social/cultural activities) and the institution's impact on the amount of crime in the community.
19. Number of proposals funded for certain purposes (e.g., research versus training) by level of funding as a percentage of all proposals submitted.
20. Total dollar amount of gifts and/or grants received for certain purposes (e.g., research versus training) as a percentage of total budget within a certain time period.

THE OUTCOMES MEASURES AND PROCEDURES MANUAL

A final major effort of the Outcome Project has been the development of the *Outcome Measures and Procedures Manual* (Micek, Service, and Lee, 1975). This manual has been designed to serve as a ***flexible*** and ***practical*** guide for helping decision-makers deal with the problems of obtaining and analyzing a wide range of needed outcome information. It does this by presenting an array of alternative procedures that can be used by institutional researchers, planners, and evaluators to obtain local data for a select number of institutional and program outcome measures.

Selection of the outcome measures for inclusion in the manual and development of the procedures for obtaining those measures were based on five major criteria:

1. The manual should, to the extent possible, bridge the full range of postsecondary education outcome measures. Measures of the outcomes of the instruction, research, community service, and institutional support programs associated with various types of postsecondary institutions should be considered for inclusion in the manual.

2. The outcome measures entertained for inclusion in the manual should reflect the fact that postsecondary education outcomes occur over an extended time period. Therefore, the manual should consider measures of both short-term and long-term outcomes.

3. The outcome measures and their corresponding data acquisition procedures should reflect a recognition that the information needed by different decision-makers varies considerably as to when it is needed and at what level of detail.

4. The initial version of the manual should be primarily a compilation of the current state-of-the-art capability with respect to feasibility of outcome data collection. Future versions will incorporate improved and newly developed outcome data acquisition procedures.

5. The manual should be a flexible and adaptable tool from which users can pick and choose the most appropriate procedures for acquiring data related to the outcome measures they need.

The outcome measures and their associated data acquisition procedures presented in the manual have been organized into three major sections:

- *Student Growth and Development Measures and Procedures;*
- *New Knowledge and Art Forms Measures and Procedures; and*
- *Community Impact.*

Table 5 on the next page shows the structure used to organize the outcome measures and data acquisition procedures contained in the manual.

For each outcome measure contained in the manual, a one-page abstract is presented that provides:

1. The ***name*** of the cutcome measure.
2. The ***number*** used to categorize the measure.
3. A ***definition*** of the measure.
4. The ***data sources*** from which the data needed for the measure can be obtained.
5. A listing of the general type of ***procedures*** recommended for obtaining the measure.
6. ***Comments*** that may be useful in understanding the use of the measure and its acquisition procedures.

Following the one-page abstract for each measure, the data acquisition procedures suggested for that measure are presented. In some instances, alternative procedures have been presented to give the user as much flexibility as possible in acquiring the data necessary for the measure. For instance, procedures may differ with respect to data collection mechanisms (institutional records versus questionnaire surveys) or data sources (surveys of existing students, former students, or administrative staff). A list of the outcome measures contained in the manual and an exemplar data acquisition procedure is presented in ***Appendix A***.

FINAL COMMENTS

Clearly, pressures from both outside and inside the institution are making it paramount that community colleges improve their ability to document and articulate the outputs and impacts of their programs. How to proceed in improving this capability is a difficult question in view of the inherent problems associated with identifying, measuring, and evaluating educational outcomes. This paper has summarized an approach the National Center for Higher Education Management Systems has taken in dealing with these problems and has reviewed three major NCHEMS products designed to help decision-makers accomplish three tasks:

1. Identify and classify the range of possible outcomes of postsecondary education;
2. Determine who needs what kind of outcome information for this particular decision-making responsibility; and
3. Develop and implement procedures for obtaining needed outcome information.

Table 5

Outcome Measures and Procedures Categories

Student Growth and Development

A. Student Knowledge and Skills Development
- Measures and procedures concerning student understanding, competencies, and attitudes relative to bodies of facts and principles and use of their intellectual and physical abilities.

B. Student Educational Career Development
- Measures and procedures concerning student attitudes and success relative to certain academic pursuits, e.g., student educational degree aspirations and attainments.

C. Student Educational Satisfaction
- Measures and procedures concerning the satisfaction of students about the knowledge and skills they have acquired and their progress toward their educational and occupational career objectives.

D. Student Occupational Career Development
- Measures and procedures concerning student attitudes and success relative to certain occupational goals and their job performance.

E. Student Personal Development
- Information about changes in students conerning the growth and maintenance of their personal life, e.g., their ability to adapt to new situations, their self-concept.

F. Student Social/Cultural Development
- Information about student abilities and attitudes in dealing with people and their interest in cultural activities.

New Knowledge and Art Forms

G. Development of New Knowledge
- Measures and procedures concerning forms of new knowledge developed, applied, and reorganized by an institution's programs and its faculty, staff, and students (current and former).

H. Development of Art Forms
- Measures and procedures concerning forms of art, e.g., a musical score, a play, a sculpture, created by an institution's programs and its faculty, staff, and students (current and former).

Community Impact

I. Community Impact: Education
- Measures and procedures concerning the attitudes and success of non-degree/diploma/certificate participants relative to their acquisition of knowledge and skills, personal and social development, and occupational career goals and performance.

J. Community Impact: Service
- Measures and procedures concerning the impact of the opportunities and services provided by the institution and received by the community, e.g., agricultural extension services, cultural and recreational opportunities.

K. Community Impact: Economic
- Measures and procedures concerning the impact of an institution's programs and its faculty, staff, and students (current and former) on the financial health and manpower supply of the community (local, state or national).

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IV. PME AND OUTCOME MEASURES

Dr. L. James Harvey

The purpose of this section is to clarify the relationships between Planning, Management, and Evaluation Systems (PME) and Outcome Measures (OCM). In addition, some comments will be made regarding the linkage of Outcome Measures with Management Information Systems (MIS).

First, let us focus on the definitions of OCM and PME.

PME. The process of establishing the college mission, goals, and the derivative goals and objectives, of coordinating the affairs of the college to achieve the goals and objectives, and determining how efficiently and effectively the planned achievements were realized.

OCM. A quantifiable measurement of the results or impact of an educational institution or one of its programs. Outcome measures are designed to assist the college in identifying and collecting information needed to determine institutional effectiveness.

If an institution has an effective planning system, and if they are planning in terms of the definition above, then they are setting institutional objectives. These objectives stem from broader, usually non-quantifiable, institutional goals. The objectives, however, are by definition quantifiable and measurable. These institutional objectives and the measures they contain form the basis for outcome measures and for an outcome measurement system for an institution. The OCM becomes the heart of the institution's evaluation system since they focus the college's attention on the essence of what it is attempting to accomplish. The management process is between the planning and evaluation processes and focuses on carrying out the activities needed to accomplish the objectives.

Figure 1 is presented to assist the reader in further clarifying these relationships.

It is assumed that in its objectives, an institution will focus on who it wishes to serve, how it wishes to serve them, and what impact it hopes to have on those it serves. To the extent that these matters are clearly stated in quantifiable objectives, the outcome measures are the quantifiable elements in the objectives.

The objectives usually focus on desired outcomes or the expected outcomes. The final measurement determines what the actual outcomes are. These definitions of different types of outcome measures are helpful in talking about OCM, but they are all

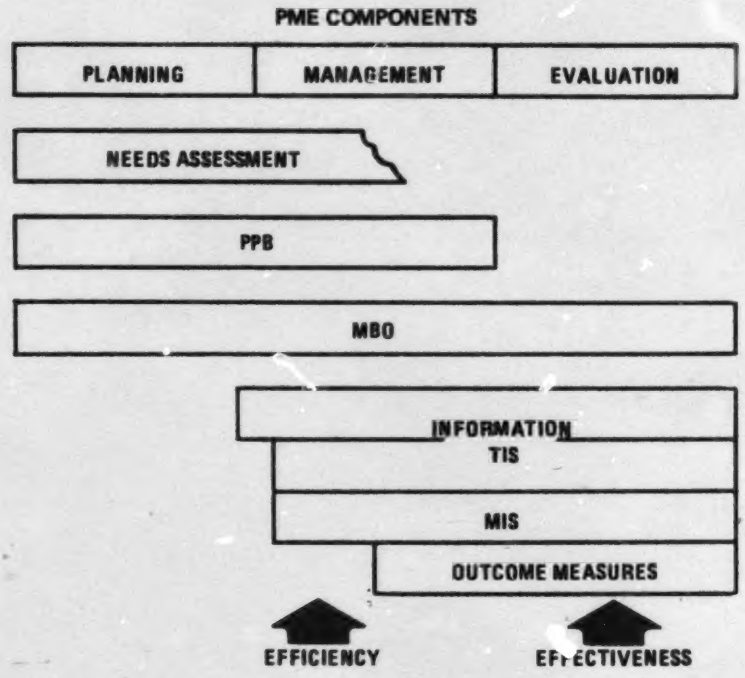

Figure 1

included when an institution sets and measures objectives. There is, however, one other category of OCM which needs to be mentioned because it is, by definition, not part of the goal and objective setting process. This is the tacit outcome measure.

Tacit outcomes are those that the institution has on a person or community which it does not intend or that it is unaware of. For example, it may not be an objective of the college, but one of its impacts on an area is that it keeps a large number of students out of the full-time job market. In addition, a college may have a significant impact on a student's desires to learn which may not be in an institutional objective. Some objectives may be tacit when they are discovered, but be converted into desired or expected outcomes as they become the focus of planned institutional effort through the establishment of objectives.

Figure 2 represents an attempt to diagram a PME model that develops outcomes and outcome measures. This is only one of a number of models that could be developed and is presented to show the relationship between PME—OCM and a MIS.

PME MODEL

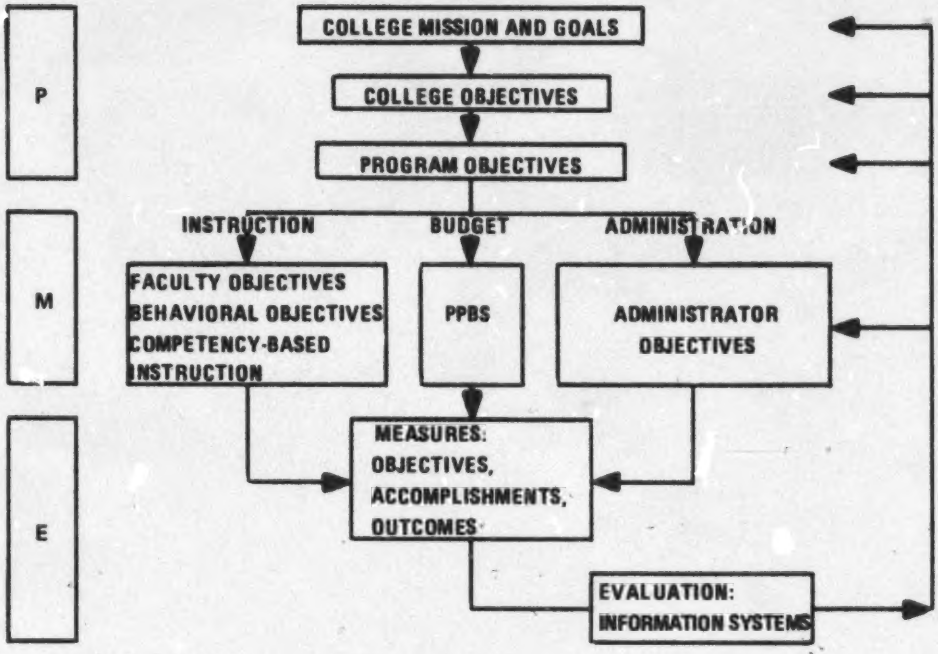

Figure 2

A fully developed management information system (MIS) would include the outcome measures. These measures should become an intricate part of this information system and a key factor in monitoring the progress and impact of the institution. In an ongoing MIS, the measures should be routinely gathered, formulated in meaningful reports and monitored regularly by the college trustees and executive managers.

One last point needs to be dealt with. If a college does not set objectives in quantifiable items and does not have a modern PME system, does it still have outcomes and can it still have an OCM system? The answer is yes. Obviously, the college is having impacts and accomplishing results, whatever they may be. The extent to which these impacts and results can be identified and measured is the extent to which the college can develop an OCMS. The college can borrow an OCM system from someone else or copy the good work done by NCHEMS. This obviously is not the best way to do it, however, and is a little bit akin to starting a system by looking at the answers (measures) before the questions (objectives) are defined or asked. In the judgment of the

author, an institution using the latter approach runs the risk of having more unidentified measures (tacit OCM) than identified measures. A system developed in this fashion would also be less valuable for management purposes.

Whether a college begins its OCMS by focusing on its objectives or whether it begins by looking at other systems and available measures, these two elements will continue to work back and forth as the system becomes more sophisticated and integrated. For example, as the college sets new objectives, new measures will be added to the OCMS. On the other hand, the data developed in the OCMS may lead to the discovery of new indices or measures which in turn may become the basis for setting new institutional objectives.

In summary, an OCMS is an intricate part of a complete PME system. The outcome measures form the backbone of the "E" (evaluation) in PME. They also serve as a major focus of the institutional objectives which are essential to the "P" (planning) and "M" (management) sections of PME.

V. OUTCOMES MEASUREMENT AT EL PASO COMMUNITY COLLEGE

Dr. Enrique Solis, Jr.
and
Mr. Richard Drum

This article should more aptly be titled "Why El Paso Community College is Undertaking a Program of Outcomes Measurement." A corollary to this would be "What do we expect from such a program?" This paper will address the plans and reasons for implementing an outcomes measurement project at the college. Implementation will proceed with the assistance of the National Center for Higher Education Management System (NCHEMS) as part of the College's Management Improvement Activity under its Advanced Institutional Development Program (AIDP).

The College is a unique institution in many respects. It was opened in the fall of 1971 by Dr. Alfredo de los Santos, Jr., with an initial enrollment of 901 students. This initial enrollment mushroomed to a total of more than 12,000 students during the spring of 1975.

Throughout this period the school has operated out of leased army facilities. In 1975, the College purchased and remodeled a facility which had served at different times as a high school and as administrative offices for a local school district. The building became the El Paso Community College, Rio Grande Campus, and presently houses all of the institution's allied health programs.

Also in 1975, a contested decision on a 1974 bond election was decided in favor of the college district and plans are under way for the construction of two new campuses. When all the plans are finalized and realized, El Paso Community College will be a multicampus organization with a central administration. It will be better able to serve the community, but will also have the multiplicity of problems associated with its tentacular structure. Proper planning for efficient operation must begin now.

The College has moved very rapidly in other areas. The faculty and the administration have been very active in curriculum development and individualized instruction efforts. Since the school population is approximately 57 percent Spanish surnamed, college personnel also have concentrated heavily on one very important thrust of the institution -- bilingual education. In addition, a system of Management by Objectives (MBO) has been implemented which includes faculty participation through faculty personal plans of action.

In short, at El Paso Community College, we have an institution that has had over a ten-fold increase in enrollment in less than five years. It is on its way to becoming a multicampus organization, has progressed rapidly in individualized instruction, is moving to implement bilingual education, and has a working system of MBO.

The MBO system at El Paso Community College focuses on managing the institution through sets of integrated objectives with measurement indicators. This system has served as the framework for the College's planning, management, and evaluation mechanism. There is, however, a weak link in the system which is crucial to its proper operation. That shortcoming is evaluation. Our methodologies and data collection schemes are neither systematic nor centralized.

An exception exists. Our curriculum development efforts are subjected to fairly stringent evaluation procedures. Formative assessment of materials development and individualization of particular courses is in operation from the proposal to the implementation phases. Learning outcomes, however, are not rigorously assessed.

Another area that needs strengthening is the institution's methods for assessing the impact of the College in the community. In the past, El Paso Community College has conducted:

- *Employment needs surveys;*
- *Vocational student follow-up studies;*
- *Attrition studies;*
- *Some specific community impact studies; and*
- *Community service and continuing education needs.*

These and other studies, however, have been somewhat disjointed. They have lacked that thread of coordination that turns a series of information gathering schemes and devices into effective management tools. In this respect, our growth has outdistanced our capabilities in this area. The danger exists that if assessment methods are left unimproved, eventually the institution will manage the managers instead of the managers managing the institution. We feel that a program of integrated outcomes measurement will provide the needed integrating thread.

El Paso Community College's planned involvement in the NCHEMS program of outcomes measurement includes:

- *Identification of outcome information needed by key decision-makers on a recurring basis;*
- *Determination of the uses different decision-makers will make of their desired outcome information;*
- *Development of plans and procedures for obtaining needed outcome information on a continuing basis;*

- *Training staff in the application of systematic procedures and instruments in specific job areas;*
- *Testing adequacy of the procedures for the various outcomes data collection efforts;*
- *Modification of the outcome information plans, instruments, analysis procedures, and reporting procedures based on evaluative feedback about the above activities; and*
- *Implementation of outcome information collection instruments on a continuing basis and utilization of the information obtained for internal decision-making and external reporting.*

EXPECTED OUTCOME OF OUTCOMES MEASUREMENT

El Paso Community College is at an advantageous point from which its staff and faculty personnel can progress to efficient management. The institution is very young, yet has made tremendous progress in a variety of areas. This combination of characteristics affords EPCC the flexibility to implement complementary management tools which provide for assessment of the impact it has had through its multi-varied innovations and programs. Participation in an outcomes measurement program should enable EPCC to identify, collect, and analyze that information that will provide better direction to decision-makers for more effective management of the institution. This improved base of information for decision-making is, in a nutshell, EPCC's expected outcome. Spin-off benefits will include:

- *Institution-wide common denominators as indicators of impact and effectiveness;*
- *Staff trained in data identification, collection, and analysis of information;*
- *Administrators attuned to the decision-making process based in part on objective and scientifically processed information;*
- *Staff skilled in the translation of goals into quantifiable objectives; and*
- *Precise articulation of problem areas, i.e., a clearer distinction between actual problems and symptoms.*

It should be noted that a program of outcomes measurement is not viewed as a cure-all for any and all of El Paso Community College's management ills. It is only one tool for effective management, albeit a very key one.

The program will be coordinated by the Office of Institutional Research. The Office has been made possible by a Title III, AIDP grant, and has as one of its objectives the assessment of college impact for feedback to decision-makers through a program of outcomes measurement. The combination of management activities of the AIDP grant should result in a more effective management system for the institution. Outcomes measurement is expected to play a key role in that management sytem.

VI. DEVELOPMENT OF THE OUTCOME MEASURES PROJECT AT KALAMAZOO VALLEY COMMUNITY COLLEGE

Dr. Charles J. Kinnison

A "management sytems" project now in process at Kalamazoo Valley Community College (KVCC) is designed to improve the College's administrative capability and performance. The management systems project is supported in part by an Advanced Institutional Development Program (AIDP) grant to KVCC. The project is currently developing several management systems to support the planning, management, and evaluation (PME) activities within the College. One component of the management systems project is called "outcome measures." This component will: (1) identify institutional outcomes and corresponding measures, (2) develop the instruments and procedures for data gathering, analysis, and reporting, and (3) provide guides to administrators for their use of reported outcome measures data in decision-making.

The development of outcome measures brings to mind two anecdotes with which you may be familiar. It was reported that when Henry Ford was trying to develop safety glass for his automobiles, engineers on the staff weren't able to find a way to do so. He directed his chief engineer to hire new engineers because they wouldn't know the ways how *not* to make safety glass. Of course, now all cars have safety glass. Then there is a story told about Tom Edison. After he had tried about a thousand different ways to make an incandescent light bulb, someone asked him if he were discouraged. He said, "No, I have just learned a thousand ways how *not* to make a light bulb." Eventually he was successful, because we now have the incandescent light bulbs which he invented. A few people, like Ford's engineers, told us that we could not identify, measure, and evaluate outcomes of the College. And, like Edison, we have found a number of ways how *not* to do the job. The purpose of this article is to share with you some of the KVCC experiences, both successes and problems, in carrying out the project. Here is the *real* picture. Some things we think were done right. The report will also reveal some of our errors and problems. After describing our experiences, this article will outline a model other colleges could use to plan and implement such a project.

NEED FOR THE PROJECT

McManis Associates, Inc., in its work with the two-year college AIDP Consortium, has developed a PME checklist. The checklist can be used by colleges in reviewing their PME capability. Questions are presented in three sections: planning, management, and evaluation. The following questions, included under evaluation, are related to outcome measures:

1. *Is there a clearly defined list of institutional outcomes linked to the institutional objectives?*

3. *Are there regular follow-up studies of graduates and early leavers?*

6. *Is evaluation information linked to the institutional MIS and routinely fed back to the institutional planners?*

Thus, the checklist suggests that a college's PME system should include some capability for measuring and evaluating outcomes.

There were both external and internal concerns which led KVCC to include an outcomes approach in development of its PME capability. External concerns were related to requests received from: (1) the State Bureau of the Budget asking for ouput measures, and (2) the State Department of Education's emphasis on student performance objectives, especially for vocational/technical programs, requiring some kind of measurement of results. There were some internal concerns that related to the need for a more systematic approach to managing the College and to assuring ourselves that we are doing what we think we ought to be doing. The President and deans found themselves making decisions on an ad hoc basis in critical areas such as budget preparation, enrollment predictions, program continuation, and staffing. Another concern was that administrators were evaluated annually by their supervisors and there was not general agreement on the criteria for effective performance. We were concerned about the lack of a set of criteria for reviewing instructional programs that would apply over a period of time and that was generally known. Another concern was that each office had its own data files, thus reports of data from one office did not always agree with reports from another. We were also concerned that each administrator and faculty member had his own interpretation of the catalogue statement of "purpose and objectives" to guide performance of his duties and responsibilities.

It became obvious that we needed to be a little more systematic about administering the College. We were *not* ineffective, nor were we inefficient. However, we saw the need to improve our performance by becoming more effective and more efficient. So we concluded that through some systematic approaches, we could increase our effectiveness and improve our efficiency. The comprehesive management systems project, of which outcome measures was a component, was planned and initiated to help further develop the effectiveness and efficiency of the College's PME capability.

PROJECT PHASES

The outcome measures project began at KVCC in January, 1974, and after two years is still incomplete. A review of events and tasks completed to date revealed that the project will have passed through four phases during its life. The outcome measures project had a planning phase, a developing phase, a refining phase, and we will soon enter an implementing phase. Let us briefly examine each of those phases.

Planning Phase. The planning phase included the following activities. An outside consultant was used to assist KVCC in the project. The consultant interviewed all key administrators and used the information from those people about perceptions and expectations of the project to develop a tentative model. At about this time, the need became evident for some type of documentation of the various management systems. The approach we chose was a management systems manual with a section for each system, including outcome measures. Our next step was to outline that section on outcome measures. We outlined an outcomes inventory by slightly modifying the structure developed by Dr. Sidney Micek at the National Center for Higher Education Management Systems (NCHEMS).

We then examined a number of references we were able to discover. Outcome variables was the first level of the inventory we developed. Those variables were then compared to the mission and goals statement. A questionnaire was drafted to determine more specifically what information administrators thought they needed to know to make decisions. This was comparable to Dr. Micek's national "Outcome Measures Information Study." A progress report was used to conclude our planning phase. There was some overlap of tasks in the planning phase with those of the developing phase.

Developing Phase. During the developing phase, we: (1) conducted the "need to know" study, (2) drafted the outcome measures inventory that was previously outlined, (3) drafted and re-drafted the outcome measures section of the management systems manual, and (4) identified some questions and issues related to how the project fit into the College operations. Further, we: (5) drafted some definitions of terms, (6) outlined an outcome measures taxonomy, and (7) gave progress reports to administrators. This led into the refining phase.

Refining Phase. In the refining phase, we: (1) analyzed the discrepancies between outcomes data needed and college goals, (2) drafted a technical manual, (3) drafted a users' guide, and (4) designed a community impact study to examine some environmental factors which affect administration of the College. Future tasks planned for this phase include: (5) developing a dictionary of terms, (6) defining the roles of data managers (people who collect, store, retrieve and report outcome measures data within the institution), (7) preparing illustrative reports of outcomes measures data as a trial implementation, and (8) conducting a users' workshop to help administrators know limitations, advantages, and possible uses of the data which will be reported to them.

Implementing Phase. In this phase we will: (1) complete the outcome measures section in the management systems manual,* (2) begin to implement the technical procedures, (3) complete the community impact study, (4) use MBO to integrate the uses of outcome measures into the PME, and (5) begin to evaluate the college outcomes.

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* In that section, we will have a technical manual which is a set of data handling instructions to guide data managers and research and evaluation staff. The management systems manual will also include the users' guide which will be a reference for decision-makers who will be using the information provided to them. Procedures for updating and augmenting the system and some reference material will also be included. An outline of the information included in the technical manual is contained herein.

PROJECT PROBLEMS

Some of the problems we encountered in the project resulted from our lack of experience on which to base planning. Other problems occurred because we did not commit adequate staff time to carry out planned tasks.

The outcome measures project was initiated before a statement of college mission and goals was available. Absence of such a statement delayed the project by nearly three months.

We were not clear about the results expected from the project. Project objectives and tasks changed several times as we progressed through the planning phase.

Communication among college staff, and with the consultant, was difficult and somewhat unproductive due to a lack of term definitions. Different people were using the same terms to mean different things and, in some cases, using different terms to mean the same thing.

We greatly underestimated the amount of staff time the project would need. Our estimates would have been more accurate if the other problems had not occurred. However, we had very limited reserve or contingency resources to commit to the project when it was found that additional staff would be needed.

It was difficult for people not working directly with the project to see any value it could provide to them. Project staff shifted from telling others everything as it occurred (this was confusing to them) to reporting only concrete results (which were difficult to understand). There was need to: (1) focus on issues raised by the project, and (2) disseminate interim products which resulted from resolution of those issues.

Dealing with these problems helped us become much wiser. Because of them, we now know some of the ways *not* to carry out such a project. We hope you can benefit from our experience. The experience has led to an outline of the process for developing an outcomes oriented PME.

MODEL FOR OUTCOMES ORIENTED PME

Any college which undertakes a project to improve its PME capability by measuring and evaluating its outcomes could adapt a model such as the one outlined on the following page. Experience with the KVCC project suggests a three-stage model which can be implemented by completing eleven steps. The three stages involve delineation, measurement, and evaluation of college outcomes.

STAGE I. DELINEATION OF OUTCOMES

Step 1. Determine Benefits
Step 2. Establish Goals
Step 3. Delineate Outcomes

STAGE II. MEASUREMENT OF OUTCOMES

Step 4. Select Measures
Step 5. Collect Data
Step 6. Analyze Data
Step 7. Report Analyses

STAGE III. EVALUATION OF OUTCOMES

Step 8. Compare to Plans
Step 9. Evaluate Planning
Step 10. Evaluate Management
Step 11. Evaluate Evaluation

SUMMARY

A number of external and internal concerns led the President and administrators at KVCC to recognize the need for use of outcome measures in planning, management, and evaluation of the College. The outcome measures project designed to respond to that need progressed through four phases in its development. The phases were: planning, developing, refining, and implementing the project. Problems encountered by the project resulted from lack of experience on which to base planning and the lack of adequate staff time to carry out planned tasks. The experience suggested a three-stage, eleven-step model for a college to develop outcomes oriented PME. *Appendix C* contains the tentative list of the outcome measures developed at KVCC through use of this process.

VII. APPENDICES

APPENDIX A

A LIST OF THE OUTCOME MEASURES IN THE *1975 OUTCOME MEASURES AND PROCEDURES MANUAL: FIELD REVIEW EDITION*

A. Student Knowledge and Skills Development Outcomes

- A-1 Student development concerning ***breadth*** of knowledge
- A-2 Student development concerning ***depth*** of knowledge
- A-3 Student success in passing certification and licensing examinations
- A-4 Areas and agents of student change during college

B. Student Educational Career Development Outcomes

- B-1 Highest degree or certificate planned
- B-2 Students enrolled in an organized educational activity for no credit
- B-3 Program completers during a certain time period
- B-4 Program completers who entered as transfer students
- B-5 Degrees and certificates earned by an entering class of students
- B-6 Time to program completion for a ***graduating*** class
- B-7 Time to program completion for an ***entering*** class
- B-8 Educational program dropouts
- B-9 Students seeking additional degrees and certificates
- B-10 Students working toward and receiving another degree or certificate
- B-11 Student ability to transfer credits
- B-12 Level of achievement of former students in another institution

C. Student Educational Satisfaction Outcomes

- C-1 Student satisfaction with overall educational experience
- C-2 Student satisfaction with vocational preparation
- C-3 Student satisfaction with knowledge and skills in the humanities
- C-4 Student satisfaction with critical thinking ability
- C-5 Student satisfaction with human relations skills

D. Student Occupational Career Development Outcomes

- D-1 Student success in obtaining ***first*** job
- D-2 Student success in obtaining ***preferred first*** job
- D-3 Occupational career choice
- D-4 Job satisfaction
- D-5 First job earnings

D-6 Annual total income of former students
D-7 Employment in major field of study
D-8 Change and stability of career goals

E. Student Personal Development

(No outcome measures and data acquisition procedures are presented in this category in this version of the manual.)

F. Student Social/Cultural Development

(No outcome measures and data acquisition procedures are presented in this category in this version of the manual.)

G. Development of New Knowledge

G-1 Research proposals funded
G-2 Research restricted revenues

H. Development of New Art Forms

(No measures and procedures are presented in this category in this version of the manual.)

I. Community Impact: Education

I-1 Enrollment of non-degree/diploma/certificate students
I-2 Community participation in community education programs
I-3 Community participation in extension services
I-4 Educational goals achieved by community participants

J. Community Impact: Service

J-1 Institution's participation in community affairs
J-2 Community participation in an institution's social, cultural, and recreational programs
J-3 Community use of institutional facilities

K. Community Impact: Economic

K-1 Institution's payment of local and state taxes and tax compensation
K-2 Institution's purchase of locally provided utilities
K-3 Institution's purchase of locally delivered goods and services
K-4 Institution's capital equipment expenditure relevant to the local community
K-5 Institution's capital construction expenditure relevant to the local community

K-6 Local expenditures by faculty and staff
K-7 Local expenditures by students
K-8 Local expenditures by visitors

APPENDIX B

SAMPLE ABSTRACT SHEET AND CORRESPONDING DATA ACQUISITION PROCEDURES FOR ONE OF THE NCHEMS OUTCOME MEASURES

NATIONAL CENTER FOR HIGHER EDUCATION MANAGEMENT SYSTEMS
Outcome Measures and Procedures Manual

D-2
MEASURE NUMBER

MEASURE NAME

Student success in obtaining *preferred first* job

DEFINITION

Number and percentage of students who received the job of their *first* choice upon leaving the institution

DATA SOURCES

Former students

PROCEDURES

Administration of a survey questionnaire

COMMENTS

This outcome measure is identified as a potential measure of *Vocational Preparation* (1.4.1.02) in the NCHEMS Inventory of Higher Education Outcome Variables and Measures – see Appendix A

ACQUISITION PROCEDURES FOR OUTCOME MEASURE D-2

The procedure developed for the acquisition of data for outcome measure D-2 requires the use of a survey questionnaire. Because of the nature of the measure, the procedures are only appropriate for use in a Former Student Questionnaire.

PROCEDURE FOR A FORMER STUDENT QUESTIONNAIRE

It should be noted that questionnaire items 1 and 2 on the following page are suggested since they are comparable to those used in the American Council on Education's longitudinal follow-up studies of college students. As a result, the results obtained from the use of these items can be compared to the ACE results referenced in ***Preventing College Dropouts*** (Astin, 1975) or by writing to Dr. Alexander Astin, Graduate School of Education, University of California at Los Angeles, California.

1. In your first full-time job after leaving _____ [Name of Institution], which of the following was your *first* employer? (PLEASE CHECK ONE)

		First Employer	
Government:	Federal	____	(01)
	State & Local	____	(02)
Education:	Elementary & Secondary	____	(03)
	Higher Education	____	(04)
Other Non-Profit Organizations:	Hospitals, clinics	____	(05)
	Social welfare	____	(06)
	Church	____	(07)
	Other non-profit organizations	____	(08)
Business & Service:	Self-employed or family business	____	(09)
	Private company	____	(10)
	Professional partnership	____	(11)
	Research	____	(12)
Other:	(Please Specify) _____	____	(13)

2. How much of the work in this *first* full-time job was devoted to the following activities? (CHECK ONE FOR *EACH* ACTIVITY)

	(1) A Major Amount	(2) A Minor Amount	(3) None
A. Teaching	–	–	–
B. Research and Development	–	–	–
C. Administration or Management	–	–	–
D. Service to patients or clients	–	–	–
E. Other (Specify) _____	–	–	–

3. Was your first full-time job after leaving [Name of Institution] the job you most preferred at the time?

____ (1) Yes

____ (2) No

4. Which statement best describes how you regarded your *first* job? (PLEASE CHECK ONE)

____ (1) Temporary job until a better one could be found.

____ (2) Temporary job while waiting to report to a new job.

____ (3) Temporary job to earn money to do something else (travel, school, have free time, etc.).

____ (4) Job to earn money while I decide what kind of work I wanted.

____ (5) Job with *possible* career potential.

____ (6) Job with *definite* career potential.

____ (7) Other (Please specify) _____

5. How did you find your *first* job after leaving [Name of Institution]? (PLEASE CHECK ONE)

____ (1) Employed at job while completing my program.

____ (2) School placement officer or instructor.

____ (3) Professional periodicals or organizations.

____ (4) Civil Service application.

____ (5) Public or private employment agency.

____ (6) Newspaper advertisement.

____ (7) Direct application to employer.

____ (8) Friends or relatives.

____ (9) Other (Please specify) _____ _____

6. Was your *first* job related to your major field of study (your program)?

____ (1) Directly related

____ (2) Somewhat related

____ (3) Not related at all

As an alternative to questionnaire items 1 and 2 on the preceding page, one may wish to to consider the following three questions which have been used by the U.S. Bureau of Census to determine the employment sector and kind of work a person is doing or has done. Responses to these questions and those pertaining to questions 4, 5, and 6 can be compared to data the Bureau of Census collects in its annual educational attainment survey which is conducted each March. (See U.S. Bureau of Census ***Current Population Reports: Series P-20***, "Educational Attainment in the United States.")

1. In what kind of business or industry was (or is) your *first* full-time job after leaving [Name of Institution]? (For example, accounting firm, public school, TV manufacturer)

_____ ☐☐☐

2. What kind of work did (or does) your *first* full-time job involve? (For example, accounting, teaching chemistry, electrical engineering)

_____ ☐☐☐

3. In your first job were you (or are you):

____ (1) An employee of a private business?

____ (2) Self-employed in your own business?

____ (3) An employee in local, state, or Federal Government?

____ (4) A public employee in a non-government organization? (For example, an environmental agency, a public school system, a public hospital)

Another alternative for questionnaire items 1 and 2 on the preceding page is the following:

1. From the list that appears on page ____, which entry best describes your *first* full-time occupation after leaving [Name of Institution]?
(Please write its 3-digit code in the space below.)

Occupation: ⌊⌊⌊⌋ _____

APPENDIX C

TENTATIVE LIST OF OUTCOME MEASURES DEVELOPED BY KALAMAZOO VALLEY COMMUNITY COLLEGE

1.00.00.00 **STUDENT GROWTH AND DEVELOPMENT**

1.10.00.00 ***General Education and Knowledge***

.01.00 Students Completing Requirements for General Pre-Baccalaureate Programs

.01 Associate in Arts and Associate in Applied Science degrees awarded each year by career center

.02.00 Transfer of Credits to Other Institutions

.01 Transcripts of credits forwarded to other institutions each year

.02 Students transferring from KVCC who have been offered scholarships, grants and awards each year

.03.00 Participation in Non-credit Campus Educational Experiences

.01 Students attending college sponsored cultural and recreational activities each term

.02 Students attending college sponsored non-credit workshops, lectures and seminars each term

.03 Students completing courses for non-credit (audit) by development center each term

.04.00 Programs for Non-Traditional Students

.01 Credits earned each term by students classified as "C" on admissions form

.02 Credits earned each term in courses offered before 8:00 a.m., between 4:00 and 7:00 p.m., and on weekends (Saturday and Sunday)

.03 Persons over 60 years of age completing courses each term

.05.00 Impact on KVCC Educational Experience on Student's Perception of Man and Society

.01 Selected students' social, political and racial attitudes measured during first term of attendance at KVCC and at time of graduation

.06.00 Measures of Student Ability to Communicate Effectively

.01 Graduating students scores on test indicating their ability to read

.02 Graduating students scores on tests that indicate their ability to write

.03 Graduating students scores on tests that indicate their ability to communicate orally

1.20.00.00 ***Specialized Skill and Knowledge***

.01.00 Students Completing Requirements in Technical Education

.01 Students successfully completing certificate programs each year by field of specialization

.02 Students graduating from AAS degree programs each year by field of specialization

.03 Students passing certification or licensing exams each year

.02.00 Employment of Graduates of Certificate and AAS Degree Programs

.01 Graduates who are employed in their area of preparation within three months after completion of training

.02 Students who take a first job outside of their area of specialization each year

.03 Starting salaries of graduates of certificate and AAS degree program each year

1.30.00.00 ***Satisfaction with KVCC Support Activities***

.01.00 Student Recommendations

.01 Students who recommend attendance at KVCC to friends and relatives measured every two years

.02 Students attending KVCC on the recommendation of a student or former student measured every two years

.02.00 College Placement Service

.01 Placement of students in off-campus jobs before graduation

.02 Students registered with placement service each year

.03 Job interviews scheduled for marketing graduates each year

.03.00 Impact of Student Aid

.01 Graduates who received scholarships, grants or aid during last year of attendance at KVCC by amount of aid and source

.02 Graduates who received scholarships, grants or aid during first year of attendance at KVCC by amount of aid and source

.03 Funds given to students in financial aid and scholarships each year

.04 Monies paid to students for part-time, on-campus employment each year

2.00.00.00 **FACULTY AND STAFF DEVELOPMENT**

2.10.00.00 ***Work Satisfaction***

.01.00 Working Conditions

.01 Communications initiated each year stating unfair treatment or adverse working conditions by job classification

.02 Registrations each year stating dissatisfaction with working conditions by job classification

.03 In-house transfers each year by organizational unit

.04 Changes in pay status made each year (other than normal contractional increasement)

.05 Mandays lost each year to strikes and work stoppage

.06 Participants in KVCC in-service training programs each year by job classification

3.00.00.00 **COMMUNITY DEVELOPMENT AND SERVICE**

3.10.00.00 ***Community Education Development***

.01.00 Effect of Job-Related Educational Experiences on Non-classified KVCC Students

.01 Non-classified students who receive promotions as result of job-related educational experiences each year

.02 Non-classified students who receive salary increases as a result of job-related educational experiences each year

.03 Non-classified students who obtained new jobs as a result of job-related educational experiences each year

3.20.00.00 *Community Services*

.01.00 Institutional Resources Allocated to Community Services

.01 Budget allocated to community services each year

.02 Estimated monetary value of community services rendered each year by type of service

.02.00 Individuals Served by College

.01 Persons attending extra-mural, cultural and recreational activities each year who are not students or employees of the college

.02 Community residents not associated with KVCC as students or employees who received services from the college each year by type of service

3.30.00.00 *Community Impact*

.01.00 Employment and Distribution of Students

.01 Graduates employed in KVCC service area measured every three years

.02 Distribution of KVCC graduates by geographical areas measured every three years

.03 Annual salary granted KVCC graduates by selected employers measured every three years

.02.00 Economic Impact

.01 Dollar amounts of goods and services purchased by KVCC from service area every year by type of purchase

.02 Impact of KVCC on decisions to locate business within the service area measured every fifth year

4.00.00.00 **PRODUCTS DEVELOPMENT AND UTILIZATION**

4.10.00.00 ***Educational Materials, Products, and Reports***

.01.00 Publications by Faculty and Students

.01 Publications by KVCC faculty by type of publication reported each year

.02 Publications by students by type of publication reported

.03 Publications of KVCC staff used in KVCC classes each year

.02.00 Educational Products

.01 Educational products (other than publications) developed by KVCC personnel in use on campus each year by type of product

.02 Technical inventions, patents, technical improvements on existing machines and devices by KVCC faculty, staff, and students reported each year

.03.00 Development and Research

.01 Funds allocated to development and research each year

.02 Developmental and/or research projects completed each year

4.20.00.00 ***Management Information and Reports***

.01.00 Institutional Planning

.01 Institutional objectives met each year

.02 Functional level objectives met each year

.03 Dropouts before any credits are earned each term

.04 Students who do not reenter the institution after absence of one term

4.30.00.00 ***Public Information Materials and Reports***

.01.00 Employers Awareness of KVCC Job Applicants

.01 Employers contacted for job openings each term

.02 Employers requesting job applicants from KVCC graduates

.02.00 General Public Awareness of KVCC Institutional Program and Services

.01 News releases which are used by newspapers, radio and/or TV each month

.02 News releases devoted to faculty and administrator accomplishments which are used by newspapers, radio and/or TV each term

.03 News releases devoted to student accomplishments which are used by newspapers, radio, and/or TV each term

.04 Individuals and groups visiting college campus each month

.05 College publications (including brochures, catalogs, etc.) printed and distributed each year

.06 Individuals enrolled who learned something about the college or its programs via mass media every three years

.03.00 Articulation with Community Institutions

.01 Visits to area high schools by college personnel each year

.02 College programs and presentations to community groups and institutions each year

.03 Articulation meetings between KVCC staff and baccalaureate granting institutions each year

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